NON-MICROGRAVITY PROVOCATIONS TO CREW - FOOD

Michele Perchonok, Ph.D.
Advanced Food Technology Project Manager
NASA Food System Goals and Objectives

• Develop a food system that is Safe, Nutritious, Acceptable and

• Efficiently balances appropriate vehicle resources:
  volume, mass, waste, water, power, cooling, air, crew time

• Acceptability is often the lowest in priority in developing a NASA food system. While low food intake can be tolerated during short-term missions it poses a serious threat to health on longer-term missions.
  
  • The crew will not receive required nutrition and will not perform their duties effectively.
  
  • Trash, wet and dry, will increase.
ACCEPTABILITY IS IMPORTANT IN DEVELOPING A FOOD SYSTEM

- Anecdotal reports are that taste changes in microgravity
- Taste may change due to the excitement and stress resulting from an isolated environment
- Long term acceptability will change depending on flavor, texture, and complexity of food item.
  - Simple vs. intense flavors
  - Unfamiliar vs. familiar foods
  - Varied textures
SOCIALIZATION DURING MEALTIMES IS IMPORTANT FOR SPACE MISSIONS

- Many Shuttle crews will “host” the ISS crew to a special dinner
- Most ISS commanders insist on the crew eating at least one meal per day together
  - When isolated from the rest of the world in a space that, can be surprisingly alien, the preparing and eating of food can be the most communal and humanizing of domestic rituals.
  - The secret of the dinner table isn’t what’s placed on it, but who sits down with you
VARIETY IS IMPORTANT IN DEVELOPING A FOOD SYSTEM

- Food, on ISS, is stowed pantry style to allow the crew to “pick” their daily menu.
- Menu variety to mean a wide range of foods, a wide range of preparation methods, tastes and textures, as well as the element of choice for the diners.
  - Logistical limitations on the number of foods that can be carried will limit the number of foods stowed.
- Perceived variety is important because it can increase consumption (Rolls et al 1981; 1982).
- Greater variety may also simply increase the likelihood that a menu includes someone’s favorite foods.